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ABSTRACT

This article reports a study of decision-making processes for selecting instructional materials. The project had two aims: (1) to survey research findings and practices of decision-making processes in instructional material selection in the United States and Australia; and (2) to identify the attributes of decision-making processes used to select instructional materials in educational settings in Australia through a content analysis of a sample of articles published in Australian journals. The Textbook Adoption Advisory Services agency in Connecticut is discussed for its contribution to the organization of the decision-making process as it applies to textbook selection. It is noted that there are no counterparts in Australian education to the range of institutionalized practices used in the United States to select and adopt instructional materials. A content analysis of research reports and literature published in Australian journals was then used to investigate the attributes of decision-making as perceived by the authors. Seven types of decision rules and a "stages of action cycle" were used to determine differences in decision method. It is concluded that practices used for the selection of instructional materials in Australia cannot be specified, and that those who are regarded as authorities in the area of selection have a poor appreciation of the decision-making process. Appendices include a bibliography of relevant journal articles indexed in the Australian Education Index 1975-1989, an annotated bibliography of the Australian journal articles examined, and a 33-item bibliography of books and articles that includes U.S. publications. (DB)

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SELECTING INSTRUCTIONAL MATERIALS:

A SURVEY OF DECISION-MAKING PROCESSES

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Abstract

This article reports a survey of decision-making processes for selecting instructional materials. The project had two aims: (1) to survey research findings and practices relating to the decision-making processes for selecting instructional materials in the United States and Australia; and (2) to identify the attributes of decision-making, inherent in leadership styles and processes, used to select instructional materials within educational settings in Austalia through content analysis of a sample of articles published in Australian journals.

Recent research literature, published in the United States on the selection of instructional materials, has been devoted to the identification of an organised and defensible decision-making process. This concern has arisen because critics, attacking the widespread use of dubious practices in textbook adoptions, have recognised its importance in identifying instructional materials which will fit best particular educational needs. This issue is also seen to be significant in the study of comparative education, because it is perceived that Australian educators have been virtually unaffected by reform movements in this area elsewhere.

This study has two purposes: first, to survey research findings and practices relating to the decision-making processes of selecting instructional materials in the United States and Australia; and second, to identify the attributes of decision-making inherent in leadership styles, processes and structures used to select instructional materials within educational settings in Australia. Specifically, the second part of the study investigates by content analysis the perceptions of writers of research literature on this topic, as represented in a sample of articles published in Australian journals.

1. A Comparative Study of Decision-making Processes in the Selection of Instructional Materials

The attributes of decision-making in the selection of instructional materials have been the subject of comparative international study during the course of the six-subject study of the International Association for the Evaluation of Educational Achievement (Passow et al., 1976). Of the twenty countries participating in the study, a requirement for state adoption of instructional materials, followed with selection by local educational authorities, was reported by three (Iran, Israel and Japan), a requirement for state adoption of instructional materials, followed with selection by school administrators and teachers, was reported by seven (Belgium, Chile, Finland, Hungary, India, Sweden and Thailand), and no state requirement for adoption, with selection by school administrators and teachers, was reported by nine (Australia, England and Wales, Federal Republic of Germany, France, Ireland, Italy, Netherlands, New Zealand and Scotland). The United States reported that all practices were to be

found. Reporting on patterns emerging from the findings, Westbury (1985) stated that Commonwealth countries tend to control curricula through public examinations rather than by mandating state adoption of instructional materials. Nations, which seek more explicit control over curricula by state-mandated syllabuses, usually subject instructional materials to state adoption to ensure these curricula are realised. It is reasonable to surmise that those Commonwealth countries, such as the United Kingdom and Australia, which are adopting national curricula will enact state adoptions of instructional materials and define the process of decision-making in the selection of instructional materials more precisely.

1.1 United States of America

1.1.1 A Survey of Processes for Textbook Selection

Accounts of the historical development of textbook adoption procedures in the United States have been provided by Farr and Tulley (1985) and Tyson-Bernstein and Woodward (1986). They indicate that procedures for textbook adoptions arose in response to demands from both educators and the public as a means of regulating uniformity in the use of textbooks. These were practised first at the local level, but were extended through legislation to the state level during the latter years of the nineteenth century and the early years of the twentieth century. Only a proportion of the states, however, approved the extension of adoption procedures state-wide, whilst the remainder retained adoption procedures at the local level. The extension of state-wide procedures through legislation between 1890 and 1950 was justified on three grounds: that textbook costs would be reduced through purchases in volume; that textbooks of high quality would be adopted; and that a uniform state-wide curriculum could be achieved. The balance between the two types has remained relatively constant, so that at present twenty-two states apply state-wide procedures and twenty-eight states apply procedures at the local level.

The differences between the structures used in the state-wide adoption and the local adoption states have been reported by Farr and Tulley, and Farr et al. (1987). Textbooks are usually reviewed by two committees, one at the state level and the other at the district level within state-wide

systems, whilst local systems use only district level committees. The effect that the largest state-wide adoption states, notably Texas and California, have upon influencing the development and content of textbooks is a second difference between the state-wide and local adoption systems. This has meant that publishers coordinate the development and publication of textbooks to the adoption cycles of these states, thereby increasing sales and limiting competition. There is evidence that this practice influences the availability of textbooks in other states. The validity of the effect, termed the 'Texas effect' or the 'California effect', upon adoption processes is widely accepted because of the extensive number of reported studies (Crane, 1975; Bowler, 1978; English, 1980; Keith, 1981; Moyer, 1985; and Schomburg, 1986). Also Moyer reported how the activities of the two most prominent censors of textbooks in the United States, Mel and Norma Gabler, have influenced decision-making by the Texas State Textbook Committee over two decades, until challenged with legislative action by the People for the American Way in 1984.

Several writers have analysed the forces influencing the process of decision-making in textbook adoptions within specific contexts. Finley (1979) defined the roles of administrators and teachers in the decision-making process of one school district. Phipps (1984) described the issue of uniformity that emerged in the decision-making process when three small school districts merged. Clary and Smith (1986) examined the lack of uniformity of the decision-making process among different states. Miller (1986) reported that teachers participating in a study of textbook adoption tended to use their observations in a predictable decision-making process. Generalisations cannot be made from these studies, however, because extensive surveys by Duke (1985) and Tulley (1985) of the processes of textbook adoptions in each of the twenty-two state-wide adoption states have shown considerable variations in the duration of the adoption process, the sorts of criteria applied to evaluate textbooks, the nature of information annotated on adopted textbooks, and the authorities to which textbooks are recommended for listing. The findings of the surveys supported the need for conformity and improvement in the decision-making process of textbook adoptions.

The need to improve the quality of instructional materials was first recognised in public and comprehensive terms by the National Commission on Excellence in Education (1983). The Commission reported that many American school students found the subject matter of many textbooks to be too easy, a result of publishers 'writing down' textbooks to ever-lower reading levels so as to meet readability requirements applied by adoption committees. The Commission also drew attention to the lack of influence individual teachers have upon textbook selections. To improve textbook adoptions, the Commission recommended in Implementing Recommendation 5 of Recommendation B (Standards and Expectations) that:

> "In considering textbooks for adoption, States and school districts should: (a) evaluate texts and other materials on their ability to present rigorous and challenging material clearly; and (b) require publishers to furnish evaluation data on the material's effectiveness."
>
> (National Commission on Excellence in Education, 1983, *A Nation at Risk: The Imperative for Educational Reform*, 28)

Prompted primarily by the report of the National Commission on Excellence in Education, textbooks became recognised as an important element in any attempt to improve the quality of American education. As a result of the cumulative and interdisciplinary nature of research arising from the reform movement, critics have recognised that the accepted decision-making process for textbook adoptions is fraught with problems that limit its usefulness. Tyson-Bernstein and Woodward trace these problems to the persistence of regulatory anachronisms, the use of readability formulas and the promotion by the civil rights movement of equal representation on committees, but recognise that improvements of textbook adoptions will arise only from a national consensus on changes to the decision-making process.

Only a few measures, intended to improve the decision-making process, are reported in research literature. DeRose and Whittle (1976) described a procedure for textbook selection that involved using two committees, one of subject specialists drawn from outside the school district and the other a district-wide teachers' committee. A collaborative decision-making process resulted because each committee had separate duties and responsibilities. Dole et al. (1987) reported the piloting of *A Guide to*

Selecting Basal Reading Programs by four textbook adoption committees, which resulted in a more informed decision-making process through improved leadership. Muther has suggested improvements to the decision-making process by recommending a range of evaluative techniques: vertical trace (Muther, 1984); story-sort comparison; concept development trace; and kid-rating (Muther and Conrad, 1988). Moreover, Muther (1983) has developed a comprehensive, in-service training program for selection committees in which each of these techniques plays a part. This program is described in detail, because it delivers commendable practices to the process of decision-making.

1.1.2 A Case Study of a Decision-making Process for Textbook Selection

An instance of a current effort to improve the decision-making process in textbook adoptions in the United States is to be found in the work of the Textbook Adoption Advisory Services (TAAS), an agency located at Manchester, Connecticut, which provides a consulting service for school districts through workshops. Its director, Connie Muther has designed a manual which presents the plan for the decision-making process in textbook adoptions. Originally developed for a workshop of administrators, the manual is not regarded as a finished product and has been revised in 1984, 1985, 1987 and 1988. The manual, which comprises sixteen modules and six appendices in the 1988 edition, has been used in a range of geographic locations in the United States at workshops for in-service training of the members of school district textbook adoption committees.

The plan of the decision-making process for textbook adoptions is described in the context of the scope and sequence of the contents of the manual. Introductory subject matter is covered in the first five chapters. The first chapter, titled Overview, presents the rationale statement for training teachers in the process of adopting textbooks by explicating the objectives of the workshop, and describing a plan of the decision-making process for effective textbook adoptions as being a sequence of three stages: planning, analysing and identifying what is wanted in a new textbook; evaluating and selecting the materials that match best what is wanted; and implementing the new materials effectively. A chart, reproduced as Figure 1, illustrates the details of the

process diagrammatically. The second chapter, titled Textbook Adoption Policy, describes the attributes of a good policy in textbook adoption as being based upon decision-makers meeting a level of expertise, certain procedures being included in the decision-making process, and proof that specified criteria have been met. Minimum requirements for members of selection committees are described for five problem areas: expertise; training; performance; plan and process; and support. The third chapter, titled Decisions Before Beginning, describes a process to make decisions on budgetting the committee's work, setting time limits, determining participation, determining the extent of control over changes and selecting a director. The fourth chapter, The Committee, recommends at the first meeting that seven subcommittees are formed: Communications, which supports the director by communicating information to other members of the committee; Pitfalls, which solves constraints involving the adoption process, the textbooks to be adopted and committee meetings; Research, which provides research information; Needs Assessment, which assesses needs of the school for textbooks; Materials, which collects information from publishers on available textbooks and establishes a delivery system to schools; Implementation/Training/Modifying, which trains and works with teachers to implement the textbooks in the school; and Monitoring, which works with monitors of textbook use in the school. The committee is led by a director, an unbiased, non-voting but autocratic facilitator, who manages its work. The fifth chapter, titled Provide Training/Background Information, presents plans for training evaluators to identify quality in textbooks.

FIGURE 1

DECISION-MAKING PROCESS FOR SELECTING INSTRUCTIONAL MATERIALS (TEXTBOOK ADOPTION ADVISORY SERVICES)

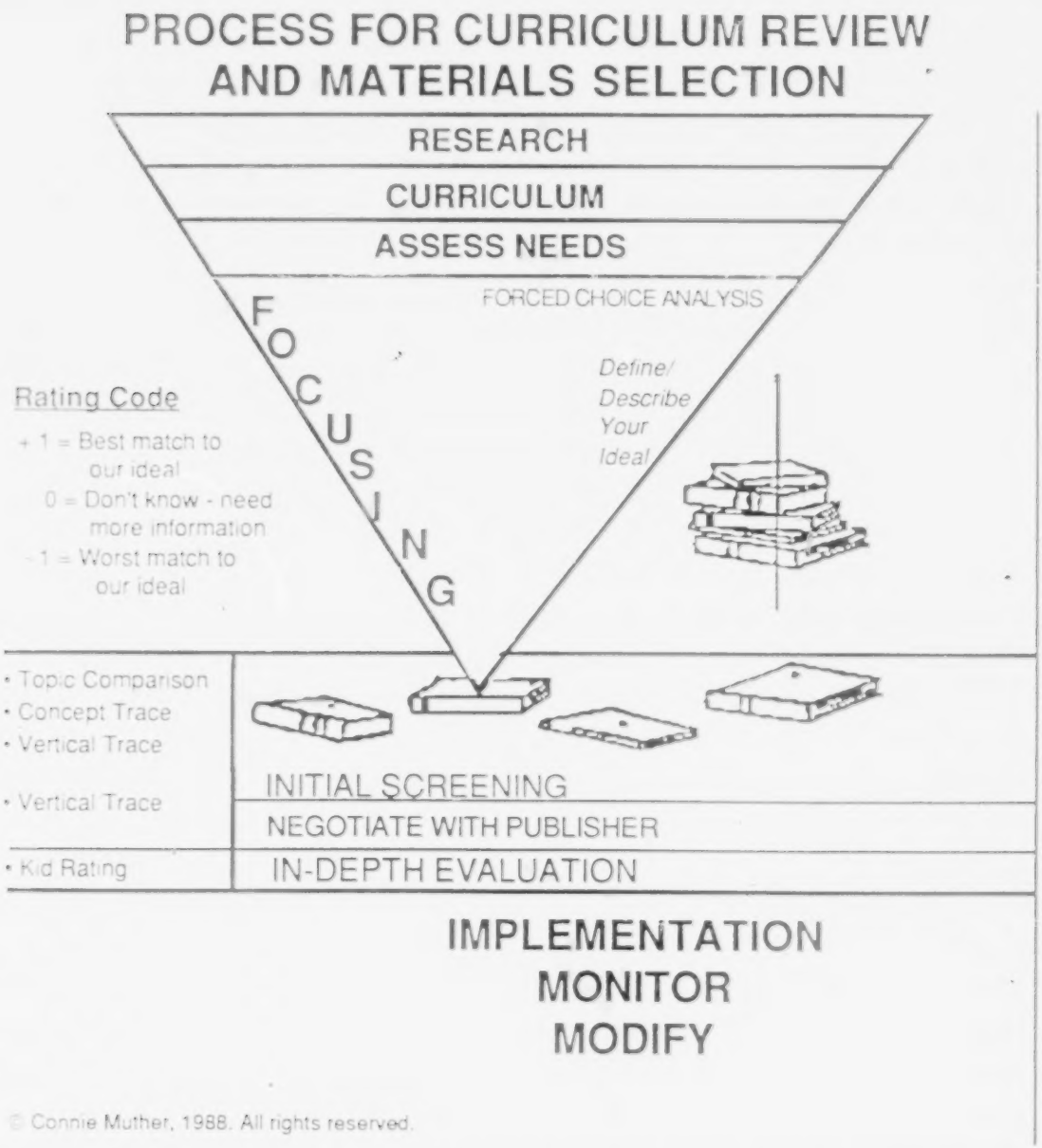

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Figure 1 is reprinted by permission of the Textbook Adoption Advisory Services, 257 East Center Street, Manchester, CT 06040, USA.

The first stage is covered in Chapters 6 through 10. The sixth chapter, titled Review Research/Trends/Latest Thinking (What Works), presents information that can be used by the Research Subcommittee. The seventh chapter, titled Identify and Reduce Curriculum, describes a process to force rank performance objectives contained in curriculum guides onto charts for display in classrooms as 'Curriculum-On-The-Wall' and in homes as 'Curriculum-In-The-Home'. The eighth chapter, titled Assess Needs, describes procedures to assess needs by using a standard form, How To Determine What To Evaluate For. The ninth chapter, titled Focusing: Forced Ranking, describes techniques to reduce options and force consensus in ranking research trends, needs and criteria used to evaluate textbooks. The tenth chapter, titled Focusing: Define/Describe Ideal, describes a process whereby committee members define and describe the three most highly ranked goals by using a standard form, What/How To Evaluate.

The second stage is covered in Chapters 11 through 14. The eleventh chapter, Evaluate: Initial Screening, presents information on the process for the first seven steps of a plan to evaluate textbooks through a sequence of ten steps: first, approve what/how evaluation plans; second, organise all textbook submissions by grouping each according to a cut-and-tape Scope and Sequence Chart, a cut-and-tape Table of Contents for a key topic, and a cut-and-tape Glossary; third, perform a cut-and-tape side-by-side topic comparison (an evaluation strategy which compares the same element in all textbook submissions); fourth, perform a vertical trace (an evaluation strategy which determines how a skill, topic, strand or concept is developed vertically through a textbook series); fifth, perform a concept development trace (an evaluation strategy which isolates the same concept, skill or topic in all textbook submissions and determines, if the test or questions in the text, actually measures what the instruction, content or practice presents); sixth, compare the results of the evaluation; seventh, select two or three textbooks that best match priority needs; eighth, obtain sealed proposals and service contracts from winning publishers; ninth, conduct in-depth evaluations by visiting user schools or obtaining kid-ratings; and tenth, consider options when all textbook programs fail. The twelfth chapter, titled Report/Record Evaluation Results, describes the operational mode of a computer-based program used by TAAS to calculate forced choice rankings and to

organise results of evaluations. The thirteenth chapter, titled Negotiate With Publishers, presents information for the Materials Subcommittee to negotiate with publishers on the outcomes of textbook adoptions. The fourteenth chapter, titled Evaluate: In-depth, describes the procedures to administer a kid-rating and a survey of textbook users at other schools. Kid-rating is a technique whereby learners verify the three textbooks selected by the committee, by rating which textbook teaches best the subject matter in a common topic needed to pass a standardised test.

The third stage is covered in Chapters 15 and 16. The fifteenth chapter, Install/Implement New Program, presents information to be used by the Implementation/Training/Modifying Subcommittee to install the textbook in the school and to implement it in classrooms by using a standard form, Plan/Schedule On-going Systematic Implementation. The sixteenth chapter, titled Monitor and Modify: Correct and Reshape, describes processes to be used by the Monitoring Subcommittee to identify roles and guidelines for monitors, who evaluate the implementation of the textbook at the class level by using a standard form, Plan System for Monitoring Success.

The appendices are titled Checklist for a Good Adoption, Ideas and Alternatives; Notes and Newsletters, Reproducible Forms, Workshop Evaluation Form, and Response Log.

1.2 Australia

Research findings on the attributes of decision-making in the selection of instructional materials, used in Australian schools, are not extensive. Brimble (1981) reported, from a study of a small sample of primary teachers in Queensland on their perceptions of leadership style in the selection of supplementary reading materials, that they viewed classroom teachers as having the most significant role. The most extensive findings of Australian research, however, have been reported by Marsh et al. (1981). These researchers then reported on the attitudes of Western Australian primary school principals towards the selection of curriculum materials (Marsh, 1983a), on attitudes of social science instructors, surveyed nationally at institutions of further education, towards including curriculum materials analysis in pre-service teacher training courses

(Marsh, 1983b), and on Western Australian teachers' attitudes towards selection issues involving curriculum materials (Marsh et al., 1985).

Marsh et al. (1985) have provided evidence on the process of decision-making in the selection of curriculum materials prevailing at primary schools in Western Australia. Three designs were administered in two stages to collect data in this project. The first stage comprised two designs: first, case studies were conducted in two schools; and second, structured interviews were conducted with teachers and principals in selected schools. The data collected at the first stage were used to develop two questionnaires for the second stage. These questionnaires, one each for gathering information on social studies and mathematics, were administered to separately drawn, simple random samples of forty schools. Each questionnaire was designed in alternate forms, one for principals and the other for teachers.

The results from the surveys of teachers identified problems reflecting inadequacies of the prevailing selection practices in the schools studied for both social studies and mathematics. These problems included lack of time to select curriculum materials, not knowing which curriculum materials were available and lack of access to curriculum materials. Principals also experienced problems in selecting curriculum materials, which included difficulties in selecting materials to suit most teachers in their schools, the availability of too limited amounts of funding for purchases, and being required to order materials without preliminary inspections. Furthermore, the results suggested that status position, as much as role performance, influenced the decision-making process of selection in these schools. Although only a fifth of principals had sole responsibility for organising instructional materials in their schools, principals often formed part of a staff group that performed this task, particularly in relation to mathematics materials. On the other hand, both teacher-librarians and library aides took a major role in assisting teachers to select instructional materials for social studies. It was also identified that approximately one-third of teachers surveyed were involved in making decisions on selecting instructional materials for their classrooms.

These researchers concluded that there appeared to be insufficient consultation between principals and their staffs on the selection of instructional materials, which may have resulted, firstly, from a lack of school policies concerning the selection of materials, and secondly, from teachers having failed to identify materials which they considered to be the most appropriate for use in their classrooms.

2 A Content Analysis of Journal Articles on Decision-making in the Selection of Instructional Materials

2.1 Research Problem

The evidence presented indicates that there is a discrepancy between the relative quantities of research studies on decision-making in the selection of instructional materials published in the United States and Australia. Also, the survey has identified that there are no counterparts present in Australian education to the range of institutionalised practices used in the United States to select and adopt instructional materials. The failure of practices for textbook adoptions in the United States, to account for sound decision-making, has given rise to an attempt to delineate the process within the program described in the case study. From the absence of in-service training within this area in Australian educational practice, it can be concluded that a relative weakness also prevails in the quality of decision-making for selecting instructional materials.

The purpose of the study was to identify the attributes of decision-making inherent in leadership styles, processes and structures used to select instructional materials within educational settings in Australia. Specifically, the study investigated the perceptions of writers of research literature on this topic, as represented in a sample of articles published in Australian journals.

This study tested two problems concerning the decision-making process of selecting instructional materials: first, whether there was a difference in the attributes of leadership style in selecting instructional materials between an analysis of the normative model proposed by Vroom and Yetton (1973) and a content analysis of a sample of journal articles; and

second, whether there was a difference in the extent of participation in the decision-making process between an analysis of the action cycle proposed by Hoy and Miskel (1978) and a content analysis of a sample of journal articles.

The procedures involved applying two models, one postulated by Vroom and Yetton on decision method and the other postulated by Hoy and Miskel on the action cycle of the decision-making process, to compare conceptual analyses with a content analysis of a sample of journal articles.

2.2 Method

2.2.1 Target Population and Method of Sampling

The target population for the study comprised journal articles on the practices of selecting instructional materials, identified from information stored within the *Australian Education Index*, compiled by the Australian Council for Educational Research. The search, which included the period between 1975 and October 1989, used four descriptors: curriculum materials; reading material selection; textbook selection; and textbooks. The fifteen journal articles, identified by this search, are listed in Appendix A.

The categories of research methods, applied to select the sample, are derived from a taxonomy used by Fahy (1985) to classify articles on research in Australian curriculum studies. In turn, Fahy's taxonomy had been adapted from original work by Isaac and Michael (1971). The classification used by Fahy, consisting of fifteen methods, is summarised in Table 1. The findings of a study on interrater reliability of the taxonomy have been reported by Fahy.

TABLE 1

RESEARCH METHODS (FAHY, 1985)

METHOD	*INTENT*
Developmental	To investigate patterns and sequences of growth and/or change as a function of time.
Correlational	To investigate the extent to which variations in one factor correspond with variations in one or more other factors based on correlation coefficients.
Ex post facto	To investigate possible cause and effect relationships by observing some existing consequence and search back through the data for plausible factors.
Experimental	To investigate possible cause and effect relationships by exposing one or more experimental groups to one or more treatment conditions and comparing the results to one or more control groups not receiving the treatment (random assignment being essential).
Quasi-experimental	To approximate the conditions of the true experiment in a setting which does not allow the control and/or manipulation of all relevant variables.
Historical	To reconstruct the past objectively and accurately, often in relation to the tenability of an hypothesis..
Survey	To describe systematically a situation or area of interest factually and accurately.
Case Study	To study intensively the backgrounds, current status, and environmental interactions of a given social unit: an individual, group, institution, or community.
Action	To develop new skills or new approaches and to solve problems with direct application to the classroom or other applied setting.
Ethnographic	To describe extensively the human behaviour in a natural setting. The use of participant observation and/or personal accounts is essential. These are often backed by data obtained from other sources.
Autobiographical	To analyse the self with a view to understanding preconceptions that influence values, beliefs and knowledge.
Content Analysis	To describe and analyse systematically either verbal or written communication factually and accurately.
Clinical	To develop models of decision-making and problem-solving by analysis of thinking 'aloud' and testing the developed models against human subjects.
Analytic Discursive	Non-empirical study that analyses assumptions and/or elements of curriculum studies. It can also help build theoretical models.
Critical Discursive	Non-empirical study that describes or criticises educational practice or theory.

TABLE 2

PROCEDURES FOR SELECTING THE SAMPLE

ARTICLE	*AUTHOR*	*DATE*	*RESEARCH METHOD*	*STATUS OFAPPROACH*	*SAMPLE SELECTION*
1	Borthwick	1982	critical discursive	non-empirical	included
2	Brimble	1981	survey	empirical	excluded
3	Comber	1981	critical discursive	non-empirical	included
4	Crewe	1981	analytic discursive	non-empirical	included
5	Derrick	1977	critical discursive	non-empirical	included
6	Gunter	1979a	critical discursive	non-empirical	included
7	Gunter	1979b	critical discursive	non-empirical	excluded; adaptation of article 6
8	Gunter	1983	critical discursive	non-empirical	excluded; adaptation of article 6
9	Hoffman and Kenworthy	1981	case study	empirical	excluded
10	Jaunay	1978	case study	empirical	excluded
11	Kirk	1986	correlational	empirical	excluded
12	Marsh	1983	survey	empirical	excluded
13	Nimon	1976	critical discursive	non-empirical	included
14	Smith	1981	critical discursive	non-empirical	included
15	Somerville	1987	analytic discursive	non-empirical	included

A cluster sample of those articles, that applied a non-empirical research method, was selected by classifying each journal article according to Fahy's taxonomy into two main categories: those that applied empirical research methods; and those that applied non-empirical research methods. The sample, comprising only those articles in which non-empirical research methods had been applied, was selected through the analytic procedures illustrated in Table 2. The eight journal articles, included in the sample, are annotated in Appendix B.

2.2.2 Instrumentation

2.2.2.1 Decision Methods

The types of decision methods, applied to the study, have been adopted from a taxonomy and a model devised by Vroom and Yetton. The taxonomy, consisting of seven types, can be applied to answer problems of decision-making in either group or individual situations. In applying this model, a decision-making problem is answered in a sequence defined by seven decision rules: information; trust; unstructured problem; acceptance; conflict; fairness; and acceptance priority. The taxonomy is summarised in Table 3. The findings of a study on both predictive and concurrent validity of the Vroom and Yetton model have been reported by Vroom and Jago (1978).

2.2.2.2 The Action Cycle for the Decision-making Process

The stages of the action cycle for decision-making, applied to the study, have been derived from a model defined by Hoy and Miskel. In applying the sequence of five stages in this model, participants in the decision-making process are ranked according to their degrees of expertise and stake, so that those with both high degrees of expertise and stake are involved fully in the process, those with varying but limited degrees of expertise and stake are only involved in some steps of the process, whilst those having neither expertise nor stake are not involved in the process. The action cycle, and the relationship of participant involvement by expertise and stake, is illustrated in Table 4.

TABLE 3

DECISION METHODS FOR GROUP AND INDIVIDUAL PROBLEMS (VROOM AND YETTON, 1973)

LEADERSHIP STYLE	*SUBTYPE*	*MEMBERSHIP*	*ATTRIBUTES*
Autocratic	AI	group or individual	Leader solves the problem or makes the decision alone, using the information available at the time.
	AII	group orindividual	Leader obtains the necessary information from subordinates, then decides the solution to the problem. Leader may or may not tell subordinates what the problem is in getting the information from them. The role played by subordinates is clearly one of providing the necessary information, rather than generating or evaluating alternative solutions.
Consultative	CI	group or individual	Leader shares problem with relevant subordinates individually, getting their ideas and suggestions without bringing them together as a group. Then leader makes the decision, which may or may not reflect subordinates' influence.
	CII	group	Leader shares the problem with subordinates as a group, obtaining their collective ideas and suggestions. Leader then makes the decision, which may or may not reflect subordinates' influence.
Group	GI	individual	Leader shares the problem with subordinate, and together they analyse the problem and arrive at a mutually agreeable solution.
	GII	group	Leader shares the problem with subordinates as a group. Together they generate and evaluate alternatives and attempt to reach agreement (consensus) on a solution. Leader's role is much like a chairman. Leader does not try to influence the group to adopt 'his' or 'her' solution, and is willing to accept and implement any solution which has the support of the entire group.
Delegate	DI	individual	Leader delegates the problem to a subordinate, providing him or her with any information and giving responsibility for solving the problem independently. The leader may or may not request to be informed of the solution.

TABLE 4

STAGE MODEL OF THE ACTION CYCLE FOR DECISION-MAKING (HOY AND MISKEL, 1978)

	EXTENT OF PARTICIPATION			
STAGE	*SUBORDINATE OF HIGH STAKE AND HIGH EXPERTISE*	*SUBORDINATE OF HIGH STAKE AND LOW EXPERTISE*	*SUBORDINATE OF LOW STAKE AND HIGH EXPERTISE*	*SUBORDINATE OF LOW STAKE AND LOW EXPERTISE*
1. Recognise and define the problem or issue	yes	no	sometimes	no
2 Analyse the difficulties in the existing situation 2.1 classify the problem 2.2 collect data 2.3 specify problem	yes	no	yes	no
3. Establish the criteria of adequacy for resolution	yes	no	yes	no
4. Develop a plan or strategy of action 4.1 possible alternatives 4.2 probable consequences 4.3 deliberation 4.4 select action course	yes	yes	no	no
5. Initiate action plan. 5.1 program 5.2 communicate 5.3 monitor 5.4 appraise	yes	no	no	no

2.2.3 Design

The design comprised comparative appraisals of the decision-making process for selecting instructional materials in two instances: first, by application of theoretical models; and second, by application to a reference group. Conclusions were drawn by comparing the variability between measures in the two instances.

At the first step, appraisal of the decision-making process for selecting instructional materials comprised specifying the issue, conducting a situational analysis, and analysing the degree of participation in the decision-making process. The appraisal involved analysing the decision-making process for selecting instructional materials, firstly by applying each decision rule used in the the model postulated by Vroom and Yetton, and then matching this finding to the appropriate degree of participation in the action cycle of the decision-making process specified in the model postulated by Hoy and Miskel.

At the second step, the appraisal involved screening the target population, by classifying each journal article according to Fahy's taxonomy of research methods, into two main categories: those that applied empirical research methods; and those that applied non-empirical research methods. Only the latter category was included in the sample because these articles presented their authors' speculative, intuitive and deductive perceptions. Then, each article in the sample was classified on the taxonomy specified by Vroom and Yetton according to the author's perception of an appropriate leadership style for decision-making in selecting instructional materials. As a final step, each article in the sample was classified on the action cycle of Hoy and Miskel by analysing the author's perception of the extent of the participants' roles in the decision-making process for selecting instructional materials.

The culminating step of the design comprised of comparing the findings of each appraisal through interpretation.

2.2.4 Data Collection Method

The data collection method applied to the second step entailed following a defined procedure. Initially, each article was identified in the *Australian Education Index* on the basis of the title's relevance to the subject matter of the search. Subsequently, a copy of the article was obtained if it met this criterion. Once the article had been read, it was included within the population if it complied with each of three criteria: first, its subject matter related to the selection of instructional materials; second, it had been written by an author at an Australian institution; and third, it had been published in a journal sponsored by an Australian association or institution.

2.2.5 Data Analysis

Qualitative analysis was applied to data obtained from examining journal articles. Once each article had been read, attention was given to the emphases or omissions of key issues in the subject matter. On this basis, the researcher was able to form intuitive judgments on the conceptual understandings shown by authors of journal articles.

2.3 Results

Two problems were tested in the study: first, whether there was a difference in the decision method for selecting instructional materials between an analysis of the normative model proposed by Vroom and Yetton and a content analysis of a sample of journal articles; and second, whether there was a difference in the participation of subordinates in the decision-making process between an analysis of the action cycle proposed by Hoy and Miskel and a content analysis of a sample of journal articles.

The problem of determining an appropriate decision method for selecting instructional materials in a typical school setting in Australia, by applying the revised normative model of Vroom and Yetton, is analysed in Table 5. An examination of this table shows that, as a generality, the school principal should consult the teachers, and agree with them on a common practice for selecting instructional materials.

TABLE 5

ANALYSIS OF THE DECISION METHOD FOR SELECTING INSTRUCTIONAL MATERIALS (REVISED NORMATIVE MODEL OF VROOM AND YETTON, 1973)

Problem

Specified in the terms of a school setting, the problem facing the principal may be stated as: "What shall be the practice for selecting instructional materials?" For involving teachers, the problem may be restated as: "How shall teachers be involved in the decision-making process of selecting instructional materials?"

Analysis

Question A: Is there a quality requirement such that one solution is likely to be more rational than another?
Response: yes
Discussion: The problem involves technical, rational and analytical components.

Question B: Do I have sufficient information to make a high quality decision?
Response: no
Discussion: The available evidence suggests that the typical school principal is unlikely to have sufficient information, skill or expertise to solve the technical and rational aspects of the problem without the aid of subordinates.

Question D: Is the problem structured?
Response: no
Discussion: The problem is unstructured, and the alternatives and criteria for their evaluation are generally unknown.

Question E: Is acceptance of the decision by subordinates critical to effective implementation?
Response: yes
Discussion: In the school setting, teachers are involved in implementing the decisions through judgments on their parts.

Question F: If I were to make the decision by myself, is it reasonably certain that it would be accepted by my subordinates?
Response: no
Discussion: In the typical school setting, the principal is unlikely to be able to convince teachers to accept his or her decisions.

Question G: Do subordinates share the organisational goals to be attained in solving this problem?
Response: yes
Discussion: The problem manifests the common goal of selecting the most appropriate instructional materials, and in the school setting, is unlikely to generate solutions that violate corporate goals.

Problem Type: 12

Feasible Set: GII

TABLE 6

ANALYSIS OF THE ACTION CYCLE IN THE DECISION-MAKING PROCESS FOR SELECTING INSTRUCTIONAL MATERIALS (HOY AND MISKEL, 1978)

STAGE	*ATTRIBUTES OF THE PROBLEM*	*EXTENT OF PARTICIPATION*
1	The problem involves the practice for selecting instructional materials.	school principal, and each subject area coordinator
2	2.1 The problem is classified as unique. 2.2 The need to collect data is extensive. 2.3 The problem is specified as applying criteria of adequacy to a group decision-making process within a participant-determining structure.	school principal, each subject area coordinator, any staff member identified to have expertise in the practice of selecting instructional materials
3	There are five criteria of adequacy: establishing the requirements of training for participants; assessing needs for instructional materials; determining focus on the ideal instructional material; applying a range of techniques to screen and evaluate available instructional materials; and establishing practices to implement, monitor and modify instructional materials	school principal, each subject area coordinator, any staff member identified to have expertise in the practice of selecting instructional materials
4	Alternatives, as contextual variations upon a participant-determining structure, are specified, consequences predicted and a course of action deliberated and selected.	school principal, each subject area coordinator, and representative community members
5	5.1 Programming involves applying techniques to manage a selection committee, which may or may not include subcommittees. 5.2 Communication is assigned to a particular subcommittee or an individual member. 5.3 Monitoring is assigned to a particular subcommittee or an individual member. 5.4 Appraising is assigned to a particular subcommittee or an individual member.	school principal, and each subject area coordinator

TABLE 7

ANALYSIS OF THE CONTENT OF A SAMPLE OF JOURNAL ARTICLES BY THE AUTHORS' PERCEPTIONS OF DECISION METHOD AND TYPE OF SUBORDINATE PARTICIPATION

ARTICLE	*AUTHOR*	*DATE*	*AUTHOR'S PERCEPTION OF PARTICIPATION*	*DECISION METHOD*	*TYPE OF SUBORDINATE PARTICIPATION*
1	Borthwick	1982	individual teacher	AI - individual	no subordinate participation
3	Comber	1981	individual student	DI	subordinates of high stake-low expertise participate
4	Crewe	1981	teacher-librarian in consultation with teachers, students and local community members	CI - group	subordinates of high stake-low expertise and low stake-high expertise participate
5	Derrick	1977	parent in consultation with teacher-librarian	GI	subordinate of high stake-high expertise participates
6	Gunter	1979	teacher in consultation with curriculum specialists	CI - group	subordinates of low stake-high expertise participate
13	Nimon	1976	individual teacher-librarian	AI - individual	no subordinate participation
14	Smith	1981	individual teacher	AI- individual	no subordinate participation
15	Somerville	1987	individual teacher	AI - individual	no subordinate participation

The analysis of the problem of determining the action cycle in the decision-making process for selecting instructional materials in a typical school setting in Australia, by applying the model of Hoy and Miskel, is shown in Table 6. An examination of this table shows that, as a generality, the action cycle leads to formation of a participant-determining committee with membership based upon the expertise and stake of the school's teachers and local community members.

The content analysis of the sample of journal articles is shown in Table 7. Table 7 presents an analysis of each author's perception of participation in the process of selecting instructional materials, followed by interpretations of this perception in the terms of the decision method proposed by Vroom and Yetton and the basis of subordinate participation as postulated by Hoy and Miskel.

2.4 Discussion

The study tested whether there were differences in the decision method of leadership style and the participation of subordinates between the results of analyses of the concepts in two models and the content analysis of a sample of journal articles. The results of the study showed that, on the one hand, there was a null relationship between the findings of the analysis of the decision method, using the model of Vroom and Yetton, and the authors' perceptions of the decision method identified from the content analysis of a sample of journal articles. On the other hand, it was not possible to establish a relationship between the findings of the analysis of the action cycle, using the model of Hoy and Miskel, and the authors' perceptions of subordinates' participation in the action cycle from the content analysis of the sample of journal articles. In relation to the first problem, the results can be discussed in terms of their validity and reliability. None of the observations, as reflected in the perceptions of the authors of the journal articles, matched the preferred, true score on the model, that of the feasible set, GII. Therefore, the observations are only a fairly invalid measure of the decision method, given that reported studies have established the validity of the model proposed by Vroom and Yetton. Furthermore, this contention is supported by the low reliability of the observations as reflected by the lack of interrater agreement.

Although it was possible to analyse the authors' perceptions of the type of participation by subordinates in selecting instructional materials, these assessments could not be matched to particular stages in the action cycle because the information provided was too imprecise.

The results of the study, that the authors' perceptions of the decision-making process for selecting instructional materials are both invalid and unreliable, are consistent with the findings of the only other research hitherto published on the selection and use of instructional materials in Australian schools. Originally reported by Marsh et al. (1981), this research identified inadequacies in the prevailing practices used to select instructional materials in the schools studied for both social studies and mathematics. One can only speculate on the reasons why these practices are invalid and unreliable. It can be surmised that the lack of a requirement for state adoption of instructional materials in the Australian educational system may account for the poor quality of practices used to select instructional materials.

The validity of the conclusions drawn from the data may be affected by two limitations of the study: first, sampling errors; and second, the analysis of qualitative data through non-numerical summaries of qualitative variables. The sample selected for the study is likely to have given rise to two types of of sampling error: that from random differences between the sample and the population because of the small size of the sample; and that from bias, arising from the judgmental selection of a cluster sample in which only those categories, defined as applying non-empirical research methods in Fahy's taxonomy, were included as clusters of the sample. A limitation, imposed upon studying the variables associated with the selection of instructional materials, is the qualitative characteristics of much of the data. Content analysis and other methods for researching these attributes have not identified variables capable of treatment through statistical analysis, but rather they have examined invariable elements that are more appropriately analysed qualitatively. Quantitative analysis is currently restricted to measuring the amounts of those elements. Consequently, the design of this study was confined by this restriction and, therefore, it is impossible to provide the kind of quantitative data which would have made the use of experimental design a valuable tool for investigating manipulatory variables.

3 Conclusion

Comparison between the results of the analysis of two models of decision-making and the content analysis of the sample of journal articles has shown that the perceptions of these Australian authors lack validity and reliability. This major conclusion is more significant, however, when considered in the wider perspective of the survey of practices related to the decision-making process for selecting instructional materials in other countries.

Attention in this survey focused upon the decision-making process inherent in the selection and adoption of textbooks in the United States, a country in which a diverse range of disparate practices have been enacted by legislation. In spite of a lengthy history, it has been shown that the consequences of these enactments have not accomplished intended improvements in the quality of instructional materials. It was not widely recognised until the reform movement, prompted by the report of the National Commission on Excellence in Education in 1983, that these improvements would only occur as a result of greater uniformity in the practices of textbook selection and adoption and establishment of a sound, defensible decision-making process. A case study of a set of recommended practices for decision-making in textbook selection and adoption, one example of the attention given to carefully thought out guidance in this area arising during this period of reform, has been included as part of this survey.

The situation in Australia contrasts markedly with that prevailing in the United States. In spite of the inequities identified in American practices, one cannot specify that practices, recommended and sanctioned by educational authorities in Australia, are used for selecting instructional materials available to Australian schools. The content analysis of a sample of journal articles identified that a group of Australian writers, regarded as authorities in the area, appears to have a poor appreciation of what is an organised decision-making process for selecting instructional materials. In sum, the evidence presented on Australian practice underscores the highly unsatisfactory means by which instructional materials are selected. It would be encouraging to be able to predict that

the degree of attention, needed to reform the practices in Australian education for selecting instructional materials, will arise as a consequence of the implementation at present of a framework for a national curriculum.

APPENDIX A

BIBLIOGRAPHY OF JOURNAL ARTICLES INDEXED IN THE *AUSTRALIAN EDUCATION INDEX*, 1975-1989

Borthwick, J.
1982 'The selection of textbooks: source books and course books for the English classroom'
English in Australia, 61, 3-21

Brimble, R. A.
1981 'Who selects reading materials?'
Australian Journal of Reading, 4: 4, 199-203

Comber, B.
1981 'Self-selecting and reading with purpose'
Reading Around, 9: 4, 91-94

Crewe, J.
1981 'Selecting curriculum materials K-12'
Orana, 17: 4, 153-157

Derrick, H.
1977 'Choosing books for children'
Early Years, 2: 1, 12-1

Gunter, A.
1979a 'Mixed ability classes - choosing and organising learning materials'
Australian Journal of Remedial Education, 11: 3, 18-28

Gunter, A.
1979b 'Choosing and organising learning materials'
Study of Society, 10: 2, 4-5

Gunter, A.
1983 'Guidelines for choosing books and course materials'
English in Australia, 65, 3-8

Hoffman, L. and Kenworthy, C.
1981 'Using reader-choice of books to promote reading: West Australian Young Readers' Book Award'
Australian Journal of Reading, 4: 2, 96-100

Jaunay, G. R.
1978 'Selecting books for Aboriginal children'
Aboriginal Child at School, 6: 5, 30-32

Kirk, J.
1986 'Children's book choices: the influence of format'
Orana, 22: 4, 180-184

Marsh, C.
1983 'Primary school principals: intentions and realities in the selection of curriculum materials'
The Australian Administrator, 4: 3, 1-4

Nimon, M.
1976 'The selection of SF for a school library'
Children's Libraries Newsletter, 12: 3, 88-91

Smith, J.
1981 'Selecting literary texts in the multicultural classroom: some considerations'
Teaching of English, 41, 3-13

Somerville, D. B.
1987 'Criteria for selecting an adequate science text for use in junior secondary classes'
SASTA Journal, 872, 42-44

APPENDIX B

ANNOTATED BIBLIOGRAPHY OF JOURNAL ARTICLES INCLUDED IN THE SAMPLE

Borthwick, J.
1982 'The selection of textbooks: source books and course books for the English classroom'
English in Australia, 61, 3-21
Examines decision-making issues, including whether textbooks should be adopted and textbook selection based upon criteria of practicality and pedagogy, that face individual teachers, and recommends that selection of a textbook is based upon three criteria: its ideological base; its content; and its role in classroom transactions.

Comber, B.
1981 'Self-selecting and reading with purpose'
Reading Around, 9: 4, 91-94
Suggests student selection of supplementary reading materials is compatible with improving students' attainments in reading and skills in selecting materials.

Crewe, J.
1981 'Selecting curriculum materials K-12'
Orana, 17: 4, 153-157
Presents a holistic approach for selecting instructional materials of varying media, and recommends procedures for selecting and managing collections of instructional materials in school libraries.

Derrick, H.
1977 'Choosing books for children'
Early Years, 2: 1, 12-16
Suggests that selection by parents of supplementary reading materials be based upon criteria, sueh as physical attributes and story plots, that appeal most to young children.

Gunter, A.
1979 'Mixed ability classes - choosing and organising learning materials'
Australian Journal of Remedial Education, 11: 3, 18-28
Discusses the case for taking account of the transactional variables of student needs, learning environments and teaching style when selecting instructional materials, and recommends that selection of an instructional material is based upon three criteria: its fit to an instructional program; the sequence and scope of its contents; and its match to instructional objectives.

Nimon, M.
1976 'The selection of SF for a school library'
Children's Libraries Newsletter, 12: 3, 88-91
Discusses a range of issues relating to the quality and selection of supplementary reading materials on science fiction.

Smith, J.
1981 'Selecting literary texts in the multicultural classroom: some considerations'
Teaching of English, 41, 3-13
Describes a range of variables, including the degree of English language acquisition, literary images, cultural relevance and biases, affecting the selection of supplementary reading materials for students of non-English speaking backgrounds.

Somerville, D. B.
1987 'Criteria for selecting an adequate science text for use in junior secondary classes'
SASTA Journal, 872, 42-44
Outlines three sets of criteria, those of physical appearance, layout and content, for selecting textbooks on science.

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1986 'Selecting basal reading series: the need for a validated process'
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1987 'Improving the selection of basal reading programs: a report of the Textbook Adoption Guidelines Project'
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Phi Delta Kappan, 66, 467-471

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